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Applicant: Short and Keller
Application No.: 09/685,432
Filed: October 10, 2000
Title: HIGH THROUGHPUT SCREENING FOR SEQUENCES OF INTEREST

Art Unit: 1627
Examiner: Tizio, Steven C.

Commissioner for Patents
Washington, D.C. 20231

RESPONSE TO RESTRICTION REQUIREMENT

Sir:

Claims 1 to 26 are pending. It is stated in the Restriction Requirement mailed May 30, 2002 that the claims are directed to patentably distinct species of three groups: the extremophiles group, the microenvironment group and the polynucleotide of interest group. Although the species election is traversed for the reasons set forth below, Applicant provisionally elects the species set forth by the Examiner as:

- A) "thermophiles" of the extremophiles group;
- B) "gel microdroplets" of the microenvironment group; and
- C) "polynucleotide of interest that directs the synthesis of a small molecule" in the polynucleotide of interest group.

CERTIFICATION UNDER 37 CFR §1.8

I hereby certify that the documents referred to as enclosed herein are being deposited with the United States Postal Service as first class mail on this date, October 30, 2002, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231.

Name of Person Mailing Paper

Signature

The requirement for a species election is traversed. Applicants submit that the species set forth as the extremophiles group, the microenvironment group and the polynucleotide of interest group by the Examiner are not independent or patentably distinct inventions. As set forth in MPEP § 803, a proper restriction requirement is made where the inventions are independent (MPEP § 802.01, § 806.04, § 808.01) or distinct as claimed (MPEP § 806.05 - § 806.05(i)); and there is a serious burden on the Examiner (see MPEP § 803.02, § 806.04(a) - § 806.04(i), § 808.01(a), and § 808.02). However, even if the species are viewed as independent or distinct, the claimed subject matter in each group is related by a "commonality of operation, function and effect" (see MPEP § 806.04(e)), such that election of a single species is improper. Additionally, MPEP § 803 states that "[i]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions."

It is respectfully submitted that with regard to the extremophiles group, claim 8 states that the environmental sample contains extremophiles and claim 9 recites types of extremophiles. "Thermophiles" is set forth as an illustrative extremophile on page 33 of the application. Extremophiles are well known to those of skill in the art as bacteria or other organisms that grow under extreme conditions and may be the source of proteins that have evolved in those conditions. Therefore, a claim setting forth illustrative examples of extremophiles is not setting forth independent and distinct inventions. However, even if examples of extremophiles are viewed as independent and distinct, all of the members of the extremophile group are organisms that exist in extreme conditions and therefore share this common characteristic. It is submitted that the members of the extremophile group possess commonality of operation, function and effect in that all of the listed types of extremophiles survive and flourish in extreme conditions. Therefore, it would not place an undue burden on the Examiner to search various types of extremophiles, including thermophiles, hyperthermophiles, psychrophiles, halophiles, alkalophiles, acidophiles and psychrotrophs, as set forth in the present application and therefore requirement of a species election of a type of extremophile is improper.

In the microenvironment group, claim 15 claims a microenvironment and claim 16 is directed to types of microenvironments. It is respectfully submitted that, even if the types of microenvironments are independent and distinct inventions, a search of various types of microenvironments would not be burdensome upon the Examiner, as various types of microenvironments share the common characteristic of allowing encapsulation of the clone of the invention. One of skill in the art would know of and use various types of microenvironments in such a situation. As such, it is submitted that the requirement to elect a species of the microenvironment group is improper and should be withdrawn pursuant to MPEP § 806.04(e) because each of the "species" of the microenvironment group is related in that it is a type of microenvironment and because the methods to be practiced are substantially identical with respect to each of the species.

With regard to the polynucleotide of interest, even if the polynucleotide of interest encoding an enzyme and the polynucleotide of interest encoding a small molecule of interest are independent and distinct, a search of both species would not be burdensome on the Examiner as the system of the invention allows for expression of a polynucleotide regardless of the actual product encoded by the polynucleotide. Therefore, a search could be made of the system as claimed, without regard for whether the end product is an enzyme or a small molecule.

It is respectfully submitted that the species of the above groups are individually related by a commonality of operation, function and effect and that a search of the extremophiles of claim 9, the microenvironments of claim 16, and the polynucleotides of interest of claim 18-22 would not place an undue burden on the Examiner.

Accordingly, it is respectfully requested that the species set forth as the extremophiles group, microenvironment group and the polynucleotide of interest group be rejoined within each group for examination or, alternatively, that an additional explanation in support of the request for an election be provided.

However, in response to the Requirement for Restriction dated May 30, 2002, the following species within previously elected Group I, claims 1 to 26, drawn to a method of identifying a bioactivity or biomolecule of interest are provisionally elected for examination:

- A) "thermophiles" of the extremophiles group;
- B) "gel microdroplets" of the microenvironmental group; and
- C) "polynucleotide of interest that directs the synthesis of a small molecule" in the polynucleotide of interest group.

If the Examiner would like to discuss any of the issues raised in the Response, Applicants' representative can be reached at (858) 677-1456. Please charge any additional fees, or make any credits, to Deposit Account No. 50-1355.

Respectfully submitted,

Date: 10/30/02



Lisa A Haile, Ph.D.
Reg. No. 38,347
Telephone: (858) 677-1456
Facsimile: (858) 677-1465

GRAY CARY WARE & FREIDENRICH LLP
4365 Executive Drive, Suite 1100
San Diego, California 92121-2133

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